In the claims:

1. **(Currently Amended)** A chimeric polypeptide comprising a serum albumin protein (SA) having a biologically active heterologous peptide sequence inserted therein, wherein the chimeric polypeptide exhibits increased biological activity relative to the heterologous peptide sequence itself.

2. **(Currently Amended)** A chimeric polypeptide having the structure A-B-C, wherein:

   A represents a first fragment of serum albumin (SA);

   B represents a biologically active heterologous peptide sequence; and

   C represents a second peptide fragment of SA;

   wherein the chimeric polypeptide exhibits increased biological activity relative to the heterologous peptide sequence itself.

3. **(Currently Amended)** A chimeric polypeptide comprising:

   a first peptide fragment, comprising an N-terminal fragment of serum albumin (SA) protein;

   a second peptide fragment, comprising a biologically active heterologous peptide sequence, and

   a third peptide fragment, comprising a C-terminal fragment of SA;

   wherein the chimeric polypeptide exhibits increased biological activity relative to the heterologous peptide sequence itself.

4. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises a fragment of an angiogenesis-inhibiting protein or polypeptide.

5. **(Currently Amended)** The chimeric polypeptide of claim 4, wherein said angiogenesis-inhibiting protein or polypeptide is selected from: ~~the group consisting of~~ angiostatin, endostatin, ~~and~~ or peptide fragments thereof.

6. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence binds to a cell surface receptor protein.

7. **(Withdrawn)** The chimeric polypeptide of claim 6, wherein the receptor protein is a G-protein coupled receptor.

8. **(Original)** The chimeric polypeptide of claim 6, wherein the receptor protein is a tyrosine kinase receptor.

9. **(Withdrawn)** The chimeric polypeptide of claim 6, wherein the receptor protein is a cytokine receptor.

10. **(Withdrawn)** The chimeric polypeptide of claim 6, wherein the receptor protein is a MIRR receptor.

11. **(Withdrawn)** The chimeric polypeptide of claim 6, wherein the receptor protein is an orphan receptor.

12. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide binds to an extracellular receptor or an ion channel.

13. **(Original)** The chimeric polypeptide of claim 12, wherein the chimeric polypeptide is an agonist of said receptor or ion channel.

14. **(Original)** The chimeric polypeptide of claim 12, wherein the chimeric polypeptide is an antagonist of said receptor or ion channel.

15. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide induces apoptosis.

16. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide modulates cell proliferation.

17. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the chimeric polypeptide modulates differentiation of cell types.

18. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 400 residues.

19. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 200 residues.

20. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 100 residues.

21. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the heterologous peptide sequence comprises between 4 and 20 residues.

22. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the tertiary structure of the chimeric polypeptide is similar to the tertiary structure of native SA.

23. **(Original)** The chimeric polypeptide of claim 1, wherein the inserted peptide sequence replaces a portion of native SA sequence.

24. **(Original)** The chimeric polypeptide of claim 23, wherein the inserted peptide sequence and the replaced portion of native SA sequence are of unequal length.

25. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the half-life of the polypeptide in the blood is no less than 14 days.

26. **(Original)** The chimeric polypeptide of claim 2, 3, or 3, wherein the half-life of the polypeptide in the blood is no less than 10 days.

27. **(Original)** The chimeric polypeptide of claim 1, 2, or 3, wherein the half-life of the polypeptide in the blood is no less than 50% of the half-life of native SA.

28-33 **(Canceled)**

34. **(Original)** A pharmaceutical preparation comprising a pharmaceutically acceptable excipient and the chimeric polypeptide of claim 1, 2, or 3.

35-48. **(Canceled)**

49. **(Previously Presented)** The chimeric polypeptide of claim 1, wherein the biologically active heterologous peptide sequence is inserted into a cysteine loop of the serum albumin protein.

50. **(Currently Amended)** The chimeric polypeptide of claim 49, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, ~~and~~ or Cys558-Cys567.

51. **(Previously Presented)** The chimeric polypeptide of claim 23, wherein the biologically active heterologous peptide sequence replaces a portion of a cysteine loop of the serum albumin protein.

52. **(Currently Amended)** The chimeric polypeptide of claim 51, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, ~~and~~ or Cys558-Cys567.

53-62. **(Cancelled)**

63. **(New)** A chimeric polypeptide comprising a serum albumin protein (SA) having a biologically active heterologous peptide sequence inserted therein, wherein the chimeric polypeptide binds to an extracellular receptor or an ion channel under physiological conditions.

64. **(New)** A chimeric polypeptide having the structure A-B-C, wherein:

A represents a first fragment of serum albumin (SA);

B represents a biologically active heterologous peptide sequence; and

C represents a second peptide fragment of SA;

wherein the chimeric polypeptide binds to an extracellular receptor or an ion channel under physiological conditions.

65. **(New)** A chimeric polypeptide comprising:

a first peptide fragment, comprising an N-terminal fragment of serum albumin (SA) protein;

a second peptide fragment, comprising a biologically active heterologous peptide sequence, and

a third peptide fragment, comprising a C-terminal fragment of SA;

wherein the chimeric polypeptide binds to an extracellular receptor or an ion channel under physiological conditions.

66. **(New)** The chimeric polypeptide of any one of claims 63-65, wherein said receptor is a tyrosine kinase receptor.

67. **(New)** The chimeric polypeptide of any one of claims 63-65, wherein the chimeric polypeptide induces apoptosis.

68. **(New)** The chimeric polypeptide of any one of claims 63-65, wherein the chimeric polypeptide modulates cell proliferation or differentiation.

69. (New) The chimeric polypeptide of any one of claims 63-65, wherein the heterologous peptide sequence comprises a fragment of an angiogenesis-inhibiting protein or polypeptide.

70. (New) The chimeric polypeptide of any one of claims 63-65, wherein the heterologous peptide sequence comprises between 4 and 20 residues.

71. (New) The chimeric polypeptide of any one of claims 63-65, wherein the tertiary structure of the chimeric polypeptide is similar to the tertiary structure of native SA.

72. (New) The chimeric polypeptide of claim 63, wherein the inserted peptide sequence replaces a portion of native SA sequence.

73. (New) The chimeric polypeptide of claim 72, wherein the inserted peptide sequence and the replaced portion of native SA sequence are of unequal length.

74. (New) The chimeric polypeptide of claim 63, wherein the biologically active heterologous peptide sequence is inserted into a cysteine loop of the serum albumin protein.

75. (New) The chimeric polypeptide of claim 74, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, or Cys558-Cys567.

76. (New) The chimeric polypeptide of claim 72, wherein the biologically active heterologous peptide sequence replaces a portion of a cysteine loop of the serum albumin protein.

77. (New) The chimeric polypeptide of claim 76, wherein the cysteine loop is selected from Cys53-Cys62, Cys75-Cys91, Cys90-Cys101, Cys245-Cys253, Cys266-Cys279, Cys360-Cys369, Cys461-Cys477, Cys476-Cys487, or Cys558-Cys567.